Preserving and improving memory as we age

Proven approaches include healthful habits and some do-it-yourself strategies.

If you’re over 50, you’ve probably noticed some changes in your ability to remember things. Maybe you’ve gone into the kitchen and can’t remember why, or can’t recall a familiar name during a conversation. You may even miss an appointment because it slipped your mind. Memory lapses can occur at any age, but we tend to get more upset by them as we get older because we fear they’re a sign of dementia, or loss of intellectual function. Mostly, we fear Alzheimer’s disease. The fact is, when significant memory loss occurs among older people, it is not due to aging but to organic disorders, brain injury, or neurological illness.

Studies have shown that you can help prevent cognitive decline and reduce the risk of dementia by maintaining good general health habits: staying physically active, getting enough sleep, not smoking, having good social connections, limiting alcohol to one drink a day, and eating a balanced diet low in saturated and trans fats. (Recent studies have shown a lower risk of mental decline among people who follow a Mediterranean diet, which is rich in fruits, vegetables, whole grains, and healthy fats.) For women with certain health conditions, memory problems are less likely to develop if they seek and follow medical advice (see “Care for your health,” page 2).

Most of the fleeting memory problems that we experience with age reflect normal changes in the structure and function of the brain. These changes can slow certain cognitive processes, making it a bit harder to learn new things quickly or screen out distractions that can interfere with memory and learning. Granted, these changes can be frustrating and may seem far from benign when we need to learn new skills or juggle myriad responsibilities. The good news: thanks to decades of research, there are various strategies we can use to protect and sharpen our minds. Here are several you might try.

✔ Keep learning
A higher level of education is associated with better mental functioning in old age. Experts think that advanced education may help keep memory strong by getting a person into the habit of being mentally active. Challenging your brain with mental exercise is believed to activate processes that help maintain individual brain cells and stimulate communication among them. Many people have jobs that keep them mentally active, but pursuing a hobby or learning a new skill can function the same way. Read; join a book group; play chess or bridge; write your life story; do crossword or jigsaw puzzles; take a class; pursue music or art; design a new garden layout. At work, propose or volunteer for a project that involves a skill you don’t usually use. Building and preserving brain connections is an ongoing process, so make lifelong learning a priority.

Anatomy of memory

Deep within the brain, a structure known as the hippocampus plays a crucial role in acquiring and consolidating (establishing) new memories. The nearby amygdala is the part of the brain that reacts to emotionally powerful information, helping the brain to retain information that has emotional impact. Once a memory is consolidated, it is stored mainly in areas of the cerebral cortex, the large, domed outer layer of the brain.
Use all your senses

The more senses you use in learning something, the more of your brain will be involved in retaining the memory. In one study, adults were shown a series of emotionally neutral images, each presented along with a smell. They were not asked to remember what they saw. Later, they were shown a set of images, this time without odors, and asked to indicate which they’d seen before. They had excellent recall for all odor-paired pictures, and especially for those associated with pleasant smells. Brain imaging indicated that the piriform cortex, the main odor-processing region of the brain, became active when people saw objects originally paired with odors, even though the smells were no longer present and the subjects hadn’t tried to remember them. So challenge all your senses as you venture into the unfamiliar. For example, try to guess the ingredients as you smell and taste a new restaurant dish. Give sculpting or ceramics a try, noticing the feel and smell of the materials you’re using.

Believe in yourself

Myths about aging can contribute to a failing memory. Middle-aged and older learners do worse on memory tasks when they’re exposed to negative stereotypes about aging and memory, and better when the messages are positive about memory.

Care for your health

You won’t have much luck with memory-improvement strategies if a health condition is sapping your learning ability. Many medical problems that become more common with age can impair cognitive skills if they go unrecognized or untreated. Here are some ways to protect yourself:

Treat diabetes. Surges in blood sugar hamper memory by reducing blood supply to the brain. In Harvard’s Nurses’ Health Study, women ages 70 to 81 performed worse on cognitive tests and showed more deterioration over a two-year period if they had type 2 diabetes. The decline was mitigated somewhat among those taking medication to control their glucose. Exercise is another way to improve blood sugar levels.

Control blood pressure. Some memory lapses result from reduced blood flow to the brain caused by high blood pressure. In a study of 20,000 women and men over age 45 published last year in the journal Neurology, researchers found that the rate of memory problems increased by 7% for every 10-point increase in diastolic blood pressure (the bottom number in a blood pressure reading). There’s evidence that high blood pressure is especially damaging to memory in women.

Get treatment for sleep apnea. People with sleep apnea (a condition in which you stop breathing repeatedly during the night) score worse on memory and cognitive tests. Their scores rise if they use continuous positive airway pressure machines to keep airways open during sleep.

Address depression. Cognitive problems can be a symptom of depression. Older women who are depressed have worse cognitive function than non-depressed women, and their skills decline more rapidly with time. Among adults diagnosed with mild cognitive impairment, those who are also depressed are more than twice as likely to develop Alzheimer’s disease.

Check your thyroid. An underactive thyroid (hypothyroidism) can adversely affect learning, memory, and attention—even among women whose thyroid levels aren’t low enough to cause other symptoms. Proper treatment brings thyroid hormone levels back to normal, with a corresponding improvement in cognitive performance. People who go untreated are twice as likely to experience cognitive decline.

Keep an eye on cholesterol. High cholesterol appears to increase the risk for mild cognitive impairment and Alzheimer’s disease many years down the road. Experts don’t fully understand why, and they don’t know whether the problem is too much “bad” LDL cholesterol or too little “good” HDL cholesterol. A long-term study published in 2008 (involving 3,673 British adults whose cholesterol and memory were measured at ages 55 and 61) found a link between low HDL levels and memory decline. It’s too soon to say whether raising HDL levels might ward off dementia, but it’s a good idea anyway to boost your HDL, through regular exercise, eliminating saturated and trans fat, and eating more monounsaturated fats such as olive, canola, and peanut oils.
preservation into old age. People who believe that they are not in control of their memory function are less likely to work at maintaining or improving their memory skills and therefore are more likely to experience cognitive decline. If you believe you can improve and you translate that belief into practice, you have a better chance of keeping your mind sharp.

✔ **Economize your brain use**

If you don't need to use mental energy remembering where you laid your keys or the time of your granddaughter's birthday party, you'll be better able to concentrate on learning and remembering new and important things. Take advantage of calendars and planners, maps, shopping lists, file folders, and address books to keep routine information accessible. Designate a place at home for your glasses, purse, keys, and other items you use often. Remove clutter from your office or home to minimize distractions, so you can focus on new information that you want to remember.

✔ **Repeat what you want to know**

When you want to remember something you've just heard, read, or thought about, repeat it out loud or write it down. That way, you reinforce the memory or connection. For example, if you've just been told someone's name, use it when you speak with him or her: “So, John, where did you meet Camille?” If you place one of your belongings somewhere other than its usual spot, tell yourself out loud what you've done. And don't hesitate to ask for information to be repeated.

✔ **Space it out**

Repetition is most potent as a learning tool when it's properly timed. It's best not to repeat something many times in a short period, as if you were cramming for an exam. Instead, re-study the essentials after increasingly longer periods of time—one an hour, then every few hours, then every day. Spacing out periods of study is particularly valuable when you are trying to master complicated information, such as the details of a new work assignment. Research shows that spaced rehearsal improves recall not only in healthy people but also in those with certain physically based cognitive problems, such as those associated with multiple sclerosis.

✔ **Make a mnemonic**

This is a creative way to remember lists. Mnemonic devices can take the form of acronyms (such as RICE to remember first-aid advice for injured limbs: Rest, Ice, Compression, and Elevation) or sentences (such as the classic “Every good boy does fine” to remember the musical notes E, G, B, D, and F on the lines of the treble clef). For older learners, a particularly helpful approach is a story mnemonic—a brief narrative in which each item cues you to remember the next one. For example, the sentence “The dog knocked over my glass of milk so I have to wash the floor” could remind you that your dog has a vet appointment, you should pick up your new glasses, and you need to buy milk and floor cleaner.

**Common stumbling blocks to memory**

In the book *The Seven Sins of Memory: How the Mind Forgets and Remembers* (Mariner Books, 2002), Harvard psychology professor and researcher Daniel Schacter identifies several common memory flaws that healthy people of all ages can experience. Some may become more pronounced with age, including the following:

**Transience.** You are most likely to forget information soon after you learn it, and there is a tendency to further forget facts and events over time. But memory has a use-it-or-lose-it quality: if you call up and use a memory often, you are less likely to forget it. Transience might seem like an indication of memory weakness, but brain scientists regard it as beneficial because it clears the brain of unused memories and makes way for newer, more important ones.

**Absentmindedness.** This kind of forgetting occurs when you aren’t paying close enough attention in the first place. You forget where you just left your coffee cup because you didn’t focus on where you put it in the first place. You were thinking of something else, and your brain didn’t encode the information securely.

Absenticmdness is also forgetting to do something at a prescribed time, like taking your medicine or keeping an appointment. One way to avoid this problem is to identify things that can serve as reminders. For example, if you need to take certain medications at breakfast, make a habit of putting them next to your coffee cup at the table.

**Blocking.** Someone asks you a question and the answer is right on the tip of your tongue—you know that you know it, but you just can’t think of it. This is the most familiar example of blocking, the temporary inability to retrieve a memory. Blocking doesn’t occur because you weren’t paying attention or because the memory has faded from your brain. In many cases, it’s blocked by another, similar memory. For example, you call your older son by your younger son’s name or vice versa. Memory blocks become more common with age and account for much of the trouble older people have in remembering names. The good news is that about half of the blocked memories can be retrieved within a minute.

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**What about a memory course?**

If taking a memory-improvement course appeals to you, choose one that’s run by health professionals or experts in psychology or cognitive rehabilitation. And make sure it focuses on practical ways to manage everyday challenges. Stay away from courses that center on computer or concentration games, which generally won’t help you with real-life problems.

The results you get from a memory course will depend largely on the effort you put into it. Research suggests that people who do well in these courses are distinguished less by their age or health than by their strong motivation to practice.